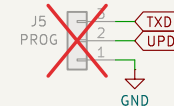
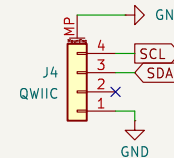
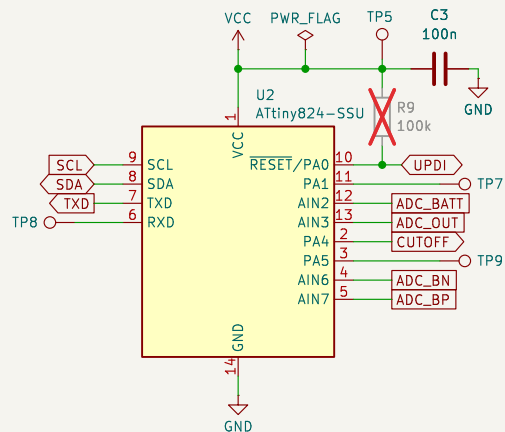


The expected current load of the charge pump is lower than 1 mA. For this light load, we will lower the oscillation frequency to 1 kHz to increase efficiency. The output source resistance will be  $\pm 100 \Omega$  for temperatures between  $-25^\circ\text{C}$  and  $50^\circ\text{C}$  and supply voltages in the range of 1.5–2.8 V.

Expected output voltage is:  
 $V_{CC} = 2.66 \text{ V}$  for  $V_{BATT} = 1.7 \text{ V}$   
 $V_{CC} = 4.86 \text{ V}$  for  $V_{BATT} = 2.8 \text{ V}$

$LV = GND$  for  $V_+ < 3.5 \text{ V}$   
 $LV = \text{open}$  for  $V_+ \geq 3.5 \text{ V}$   
 $C_{osc} = 100 \text{ pF} \rightarrow f_{osc} = 1 \text{ kHz}$   
 $f_{osc} = 1 \text{ kHz} \rightarrow \eta = 98\%$  for  $I_{out} < 1 \text{ mA}$



Vlastimil Slinták  
**µArt.cz**

Sheet: /  
 File: lto-bms.kicad\_sch

**Title: LTO Battery Management System**

Size: A4      Date: 2024-10-04  
 KiCad E.D.A. 9.0.0

Rev: A  
 Id: 1/1